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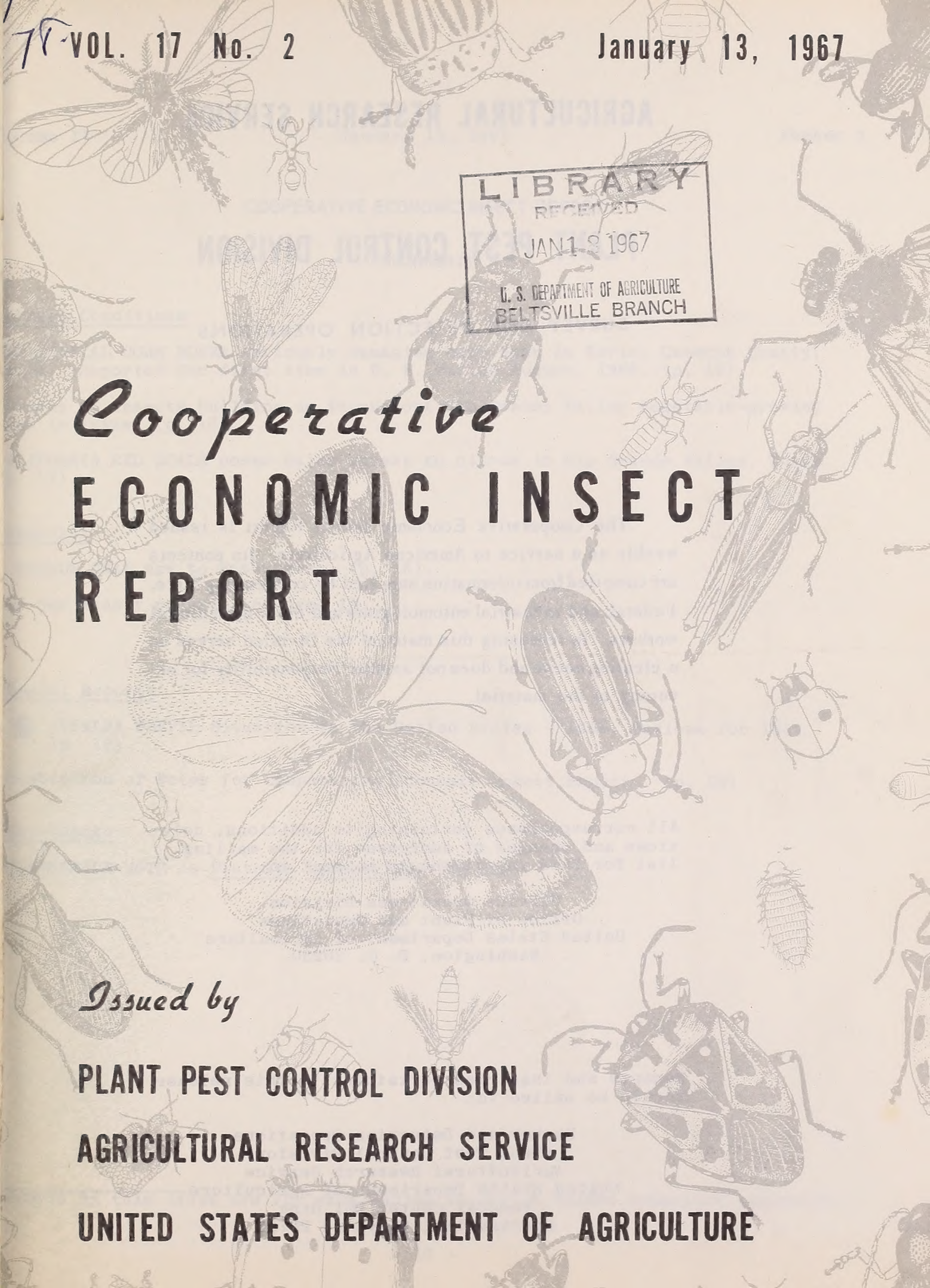

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 17 January 13, 1967 Number 2

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

NEOTROPICAL CORN BORER seriously damaging corn near La Feria, Cameron County, Texas. Reported for first time in U. S. during August, 1966. (p. 15).

Complex of insects building up throughout Rio Grande Valley vegetable-growing area in Texas. (p. 16).

CALIFORNIA RED SCALE poses major threat to citrus in Rio Grande Valley, Texas. (p. 17).

Detection

A FUNGUS GNAT new to Washington. (p. 16).

For new county records see page 18.

Special Reports

- ● ALFALFA WEEVIL Situation in the United States - 1966, Outlook for 1967. (p. 19).

Preparation of Notes for Cooperative Economic Insect Report. (p. 26).

Name Change

DIAMONDBACK MOTH is *Plutella xylostella*. (p. 16).

Reports in this issue are for week ending January 6 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance....................15

Insects Affecting

Corn, Sorghum, Sugarcane.........15
Small Grains.....................15
Forage Legumes...................15
Sugarbeets.......................16
Potatoes, Tomatoes, Peppers.......16
Beans and Peas...................16
General Vegetables...............16
Deciduous Fruits and Nuts.........16
Citrus...........................17
Ornamentals......................17
Man and Animals..................17
Stored Products..................18
Federal and State Plant Protection Programs....................18
Insect Detection....................18
Light Trap Collections....................18
Alfalfa Weevil Situation in the United States - 1966....................19
Preparation of Notes for Cooperative Economic Insect Report....................26

WEATHER OF THE WEEK ENDING JANUARY 9, 1967

HIGHLIGHTS: Another bitter cold week over the central and southern Rockies and the central Great Plains. Hard freezes across the South.

PRECIPITATION: Heavy snow fell Tuesday in the northern Cascades. Snow depths reached 3-10 inches in the lower elevations before melting by the end of the week. Depths have reached 50-75 inches at 3,000 to 4,000 feet and 100 inches above 5,000 feet. Variable snow amounts fell across the northern States from the Rocky Mountains to New England; also in the central Rocky Mountains. A major snowstorm moved from Colorado to the Great Lakes and on Friday, accompanied by strong northerly winds and frigid temperatures, became the first blizzard of 1967. Minnesota reported six storm deaths and 2 - 18 inches of snowfall. Snow depths at Marquette, Michigan, reached 52 inches. Winds in Nebraska and Kansas reached 40-60 m.p.h. causing dust storms. The winds sandblasted western Texas carrying dust out over the Gulf of Mexico. The snow fell unevenly and drifted badly near the Great Lakes. Rain in the Southeast was moderate to heavy in some areas. Extensive glazing occurred over central and southern New England on Saturday afternoon. Heavy snow fell in southern Texas on Monday.

TEMPERATURE: For the second or third week in some areas, bitter cold pushed southward across the Great Basin, the Rocky Mountains, and the Great Plains. Temperatures dropped to the 20's across the Southland from southern Arizona to northern Florida. Tucson, Arizona, registered 20° on Saturday. Subzero temperatures reached the southern Rockies and minimums of 20 - 30° below zero were common in the central Rocky Mountains. Fraser, Colorado, registered -39°. On Sunday subzero temperatures occurred in 15 States from Montana to Arizona and northeastward to Michigan; Minnesota reported -15° to near -30°. (Subzero temperatures are normal over much of North Dakota and Minnesota at this season). Warm weather brought average temperatures of 5 - 9° above normal from the northern Rockies westward and in parts of New England. The central and southern Rockies and the central Plains averaged 6 - 12° colder than normal. In general this was the secon cold week over the southern portions of this cold area. (Summary supplied by Environmental Data Service, ESSA).

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

SPOTTED ALFALFA APHID (Therioaphis maculata) - MISSISSIPPI - Decreased in Pontotoc County due to recent rainy weather; averaged 20-25 per square foot in alfalfa. (Dinkins). ARKANSAS - Increasing prior to cold weather in December. Dead aphids observed in northwest area as result of low temperatures; however, some live aphids present indicate reproduction underway. (Boyer). ARIZONA - Light in 10 percent of alfalfa fields in Chandler and Gilbert areas of Maricopa County. (Ariz. Coop. Sur.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Ranged 0-5 per linear foot on wheat in Tillman and Kiowa Counties; averaged 1 or less per linear foot in Logan, Kingfisher and Payne Counties. (Okla. Coop. Sur.). ARKANSAS - Light, 0-10 per linear foot on small grains in northwest area probably due to -3° temperature in late December. (Boyer). ALABAMA - Heavy on oats at a farm near Wilmer, Mobile County. (Bourne, Dunn).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Light to moderate on barley in Dona Ana County. (Campbell, Elson).

BEET LEAFHOPPER (Circulifer tenellus) - ARIZONA - Light on sugarbeets near Coolidge, Pinal County and Chandler, Maricopa County. Two fields in Coolidge area showed very heavy damage as result of curly top virus infection. (Ariz. Coop. Sur.).

TOBACCO BUDWORM (Heliothis virescens) - CALIFORNIA - Infesting geranium cuttings in Lodi, San Joaquin County. More prevalent and on wider host range this season. (Cal. Coop. Rpt.).

CORN, SORGHUM, SUGARCANE

NEOTROPICAL CORN BORER (Zeadiatraea lineolata) - TEXAS - Larvae infesting entire field of corn near La Feria, Cameron County; 25-30 percent of stalks lodged. Larvae of Diatraea saccharalis also present. (Riherd).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - MISSISSIPPI - Light on oats in Bolivar County, averaged 3-5 per square foot. (Dinkins). ARKANSAS - Low, 0-10 per linear foot on small grains in northwest area, probably due to -3° temperature in late December. (Boyer).

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Light to medium on winter wheat in Chaves County. (Mathews).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Light, noneconomic infestations. (Texas Coop. Rpt.). OKLAHOMA - Ranged 15-30 per linear foot on wheat in Tillman County. (Okla. Coop. Sur.).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - ILLINOIS - First and second stage larvae observed on alfalfa in southern section; most second instars dead. Ranged 2 per 40 stems to 1 per stem. (Armburst). MISSISSIPPI - Remains same as 2 weeks ago in Oktibbeha and Pontotoc Counties. (Dinkins).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - ARIZONA - Egg laying increasing in Buckeye, Goodyear and baseline areas of Maricopa County. Adult populations considerably smaller than this time last year. (Ariz. Coop. Sur.). CALIFORNIA - Active early, alfalfa plantings not affected so far. Adults light in garden area of La Mesa, San Diego County; also on office walls at Oxnard, Ventura County. (Cal. Coop. Rpt.).

CLOVER LEAF WEEVIL (*Hypera punctata*) - ARKANSAS - Occasional larva found on vetch in northwest area. (Boyer).

PEA APHID (*Acyrthosiphon pisum*) - MISSISSIPPI - Averaged 30-40 per square foot on alfalfa in Pontotoc County. (Dinkins). ARKANSAS - Remains same as before cold weather, 10-20 per square foot on vetch in northwest area. (Boyer). NEW MEXICO - Light to heavy on alfalfa in Chaves County. (Mathews).

SUGARBEETS

BEET ARMYWORM (*Spodoptera exigua*) - ARIZONA - Continues light on sugarbeets in Pinal and Maricopa Counties. Light damage evident in nearly all fields. (Ariz. Coop. Sur.).

SOUTHERN GARDEN LEAFHOPPER (*Empoasca solana*) - ARIZONA - Heavy in sugarbeet fields in Mesa and Chandler areas of Maricopa County. Moderate in Casa Grande and Coolidge areas of Pinal County. (Ariz. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

A WHITEFLY (*Aleyrodes spiraeoides*) - CALIFORNIA - Heavy on bell peppers at El Cajon, San Diego County and light on large lot of Abyssinian banana nursery stock at Santa Ana, Orange County. (Cal. Coop. Rpt.).

BEANS AND PEAS

A FUNGUS GNAT (*Bradysia impatiens*) - WASHINGTON - Damaging pea seedlings at Mount Vernon, Skagit County; also found in volunteer peas in field causing similar damage. Det. by F. R. Shaw. New State record. (Eide).

GENERAL VEGETABLES

CABBAGE LOOPER (*Trichoplusia ni*) - TEXAS - Moderate sporadic populations pose continuous threat to vegetable growers in eastern section of Rio Grande Valley this season; no damage evident in western section. (Neff).

BEET ARMYWORM (*Spodoptera exigua*) - TEXAS - Building up in spinach fields near Crystal City, Zavala County in early December; 1,500-2,000 acres treated. (Adams).

DIAMONDBACK MOTH (*Plutella xylostella**) - TEXAS - Moderate throughout Rio Grande Valley vegetable-growing area during November and December. (McMenemy).

GREEN PEACH APHID (*Myzus persicae*) - TEXAS - Rapid buildup on spinach near Crystal City, Zavala County in mid-December; some damage evident. (Fieldman).

DECIDUOUS FRUITS AND NUTS

PECAN WEEVIL (*Curculio caryae*) - TEXAS - Heavy in 25-acre native pecan grove near Jonah, Williamson County; 3-4 larvae present in many nuts throughout grove. (Wakefield).

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*Bradley, J. D., 1966. Entomologist's Gazette 17(4):213-236.

A MEALYBUG (Pseudococcus obscurus) - CALIFORNIA - Nymphs and adults medium on persimmon trees at La Mesa, San Diego County. (Cal. Coop. Rpt.).

WALNUT SCALE (Aspidiotus juglansregiae) - CALIFORNIA - Heavy on English walnut trees at Hilmar, Merced County. (Cal. Coop. Rpt.).

CITRUS

CALIFORNIA RED SCALE (Aonidiella aurantii) - TEXAS - Moderate populations pose major threat to citrus in Rio Grande Valley. (McMenemy).

TEXAS CITRUS MITE (Eutetranychus banksi) - TEXAS - Sporadic, light populations increasing. (McMenemy).

ORNAMENTALS

OMNIVOROUS LOOPER (Sabulodes caberata) - CALIFORNIA - Larvae medium on ceanothus nursery stock at South San Francisco, San Mateo County. (Cal. Coop. Rpt.).

A PLUME MOTH (Platyptilia sp.) - CALIFORNIA - Infesting geranium cuttings at Lodi, San Joaquin County. Not as severe as past 2 years. (Cal. Coop. Rpt.).

A WHITEFLY (Aleyrodes pruinosa) - CALIFORNIA - Medium to heavy on toyon (Photinia arbutifolia) at La Mesa, San Diego County. (Cal. Coop. Rpt.).

ARMORED SCALES - ALABAMA - Phenacaspis pinifoliae light on isolated loblolly and slash pine in ornamental plantings in Lee County. (McQueen). CALIFORNIA - Aonidiella citrina heavy on cymbidium plants at La Mesa, San Diego County. (Cal. Coop. Rpt.).

COTTONY-CUSHION SCALE (Icerya purchasi) - CALIFORNIA - Medium on variegated ivy nursery stock at Willows, Glenn County. Vedalia probably not surviving winters this far north. (Cal. Coop. Rpt.).

MAN AND ANIMALS

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Moderate, up to 50 per head on hogs in Mayes County. (Okla. Coop. Sur.).

AN OESTRID (Cephenemyia sp.) - OKLAHOMA - Full-grown larvae heavy in sinuses of deer checked in Cherokee County. (Okla. Coop. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Light on cattle in Choctaw County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - ALABAMA - Only 1 adult found in herd of 90 dairy cattle at Atmore, Escambia County during intensive individual inspection of 200 animals in three dairy herds in Houston, Escambia and Mobile Counties. (Bourne).

SCREW-WORM (Cochliomyia hominivorax) - No cases reported in U. S. January 1-7. Total of 199 cased reported in portion of Barrier Zone in Republic of Mexico December 25-31 as follows: Territorio sur de Baja California 7, Sonora 141, Chihuahua 17, Coahuila 6, Nuevo Leon 5, Tamaulipas 13. Total of 183 cases reported from Mexico south of the Barrier Zone. Barrier Zone is area where eradication operations underway to prevent establishment of self-sustaining population in U. S. Sterile screw-worm flies released January 1-7: Texas 16,646,250, Arizona 1,716,000, California 1,716,000, Mexico 81,904,000. (Anim. Health Div.).

TICKS - OKLAHOMA - Deer checked in eastern third of State averaged 90 percent Ixodes scapularis, 5 percent Dermacentor albipictus, and 5 percent Amblyomma americanum. (Okla. Coop. Sur.).

STORED PRODUCTS

LESSER MEALWORM (Alphitobius diaperinus) - WASHINGTON - Adults and larvae creating nuisance in poultry house litter in Thurston County. This is new county record. Det. by M. H. Hatch. (James, Retan).

FEDERAL & STATE PLANT PROTECTION PROGRAMS

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Cold weather during past few days reduced larvae in cotton fields of Dona Ana County; large numbers of larvae dead or dying in trash on top of ground. (Elson, Campbell).

INSECT DETECTION

New State Record

A FUNGUS GNAT (Bradysia impatiens) - WASHINGTON - Collected from pea seedlings at Mount Vernon, Skagit County. Det. by F. R. Shaw. (p. 16).

New County Record

LESSER MEALWORM (Alphitobius diaperinus) - WASHINGTON - Collected in Thurston County. Det. by M. H. Hatch. (p. 18).

LIGHT TRAP COLLECTIONS

SOUTH CAROLINA - Charleston - 12/19-25, 1 blacklight trap, temperature 27-70°, precipitation 0.89 - Armyworm (Pseudaletia unipuncta) 2, black cutworm (Agrotis ipsilon) 1. TEXAS - Brownsville - 12/24-30, 2 BL, temperature 38-48°, precipitation 0.02 - Black cutworm 30, granulate cutworm (Feltia subterranea) 18, variegated cutworm (Peridroma saucia) 17, yellow-striped armyworm (Prodenia ornithogalli) 23, tobacco hornworm (Manduca sexta) 1, armyworm 62, beet armyworm (Spodoptera exigua) 16, fall armyworm (S. frugiperda) 4, cabbage looper (Trichoplusia ni) 6.

Alfalfa Weevil Situation in the U.S. - 1966

The alfalfa weevil, Hypera postica (Gyllenhal), has been known in the United States since 1904, when it was identified from specimens collected in Utah. Until 1952, the weevil had not been reported east of Nebraska. However, specimens were identified from Maryland that year, and the weevil was collected in Delaware, New Jersey, Pennsylvania and Virginia later the same year. Alfalfa weevil spread rapidly during the following years in the East and South. In the eastern half of the Nation the weevil is known to occur in 27 States. Maine and Florida are the only two States east of the Mississippi River not reporting this serious pest.

In the West, alfalfa weevil had spread to California and Oregon and eastward to western South Dakota and Nebraska by 1954. Since that year, the weevil has been reported in only three States, Kansas, North Dakota and Washington, making a total of 14 States infested in the western section of the Nation. The accompanying map gives the known distribution of alfalfa weevil in the United States. (See page 24).

A questionnaire was submitted recently to entomologists in each of the 41 States known to be infested, in an attempt to determine the impact of alfalfa weevil on the production of alfalfa in the East, South, and West. Responses were received from 32 of these States.

Alfalfa weevil infestations and damage were generally more severe during 1966 than 1965 and several previous years. The outbreak in Utah was the worst in 10 years in that State, and damage was the worst it had ever been in Arkansas. The situation was generally more serious in California, but did remain static in a few locations. The weevil was about the same in northwestern Wyoming as it was in 1965, but much less severe than usual along the eastern edge of the State. Infestations in Kansas were somewhat higher than last year, with some economic damage reported. Infestations were probably the lightest in 10 years in Nebraska, but damage was slightly more severe in western South Dakota. The pest has not been a problem in North Dakota; however, some infestations were heavier than usual in 1966. Although commercial damage to alfalfa was reported in Washington in 1965, none was reported in 1966.

In the East, alfalfa weevil populations and damage were equal to or worse than in 1965. Damage was more severe in western Pennsylvania, but was less so in the southeastern portion of that State. The situation was unchanged in Maryland. Although larval populations were lower in Tennessee during 1966 than 1965, numbers were sufficiently high to destroy the first cutting.

Alfalfa weevil is expected to continue as a serious problem during 1967 in most areas where it is now known to occur. The problem is decreasing in Alabama due to the decreasing acreage planted to alfalfa. At the present time there are about 2,000 acres of alfalfa grown in the State; the outlook for 1967 is for the situation to be about the same as in 1966 on this remaining acreage. No change in the problem is anticipated in Maryland in 1967. This pest was found for the first time in Michigan and Wisconsin during 1966. Although further spread is expected in these two States during the 1967 season, no serious problems are anticipated.

This weevil is expected to spread throughout Indiana in 1967 and become economically damaging in most areas in the southern half of the State. In Ohio, economic damage occurred in 45 counties in 1966 and is anticipated in an additional 15 counties during the 1967 season. Some economic damage is expected in Illinois as far north as Champaign in the east and St. Louis on the western side of the State. The outlook for 1967 in Missouri is for a gradual increase in the area having economic populations and for more severe injury to alfalfa in the extreme southeastern portion of the State. Continued spread and population buildup are anticipated in Arkansas. In the remaining States in the eastern portion of the Nation, the alfalfa weevil problem is expected to be as serious as it was in 1966 or more so during 1967. It is now considered the most important agricultural pest in New Jersey.

Alfalfa weevil may be found in southeastern Kansas during 1967 because of the proximity of infestations in Missouri, but it is not expected to occur in economic numbers. The weevil will probably continue as no serious problem to alfalfa in western Kansas. In western Nebraska, damage is expected only in some fields that have been in alfalfa for 4-5 years. The situation is expected to remain about the same in South Dakota. Infestations have not been a problem in South Dakota except in some irrigated areas in the western part of the State. No change is expected during 1967 except that infestations may occur in several new counties. Conditions are expected to be about the same in Montana in 1967, except some growers will cut alfalfa earlier and more of the crop will go for ensilage. Unless weather conditions change expectations in Utah, the outlook for 1967 is very serious. Losses are expected to continue to increase in Idaho during the 1967 season while the situation is not expected to worsen in Washington. In Oregon, however, it is anticipated that alfalfa weevil will be more serious than in 1966. The situation is expected to be serious during 1967 in California with weather conditions having considerable influence. The situation in Wyoming will probably remain about as it was in 1966.

Alfalfa weevil has had considerable impact upon alfalfa cultural practices. One of the major effects in Delaware is the lack of increase in total acres planted to alfalfa in the past 4-5 years. Also, many growers are harvesting the first cutting earlier, as they are in Maryland where there has been a 10-percent decrease in acreage since 1959. Growers are also cutting earlier in Massachusetts because damage occurs so late as to make treatments impractical. Early cutting of first crop alfalfa is the most single important cultural practice influenced by alflafa weevil in New Jersey. In addition to early cutting, more alfalfa is being spring seeded without companion crops in Pennsylvania. So far, there has been no effect in Vermont, but if infestations continue at 1966 levels, many dairymen may reevaluate their dairy forage programs. The effect of this weevil in West Virginia is discouraging the planting of new fields of alfalfa.

Alfalfa weevil has caused a reduction of alfalfa acreage in Tennessee from 147,000 acres in 1964 to about 100,000 acres in 1966. During the period 1959-1966, the acreage in Alabama has decreased from 200,000 to about 2,000 acres. Many farmers in Mississippi have been forced to cease alfalfa production. It is difficult to establish new stands of alfalfa as extensive control measures are necessary. In Arkansas, alfalfa weevil has resulted in early cutting, spraying with insecticides and a limited amount of flaming.

Early cutting is the most noticeable effect upon cultural practices in Missouri. This eliminates additional weevil damage and an additional spray application. This undoubtedly has some effect upon the longevity of the stand, when linked with early harvest of either second or third cuttings to avoid destruction by garden webworm. Since infestations of alfalfa weevil were first found in Missouri three years ago, only a few hundred acres of alfalfa have been abandoned due to the weevil.

The weevil is found in the extreme western part of Kansas where it is of no particular importance at present. Consequently it has had no effect upon cultural practices. Although infestation in western Nebraska is more extensive than in Kansas, some alfalfa is infrequently cut earlier than usual to control the pest. Otherwise, there has been little change in cultural practices. In South Dakota, treatment costs with short residue chemicals are hampering ranchers in their efforts to compete with producers outside the infested areas. In North Dakota, however, there has been no effect upon cultural practices as economic infestations are not very common. In California, alfalfa weevil has resulted in more early cutting of alfalfa and more chemical treatment with cultural control.

Infestations have resulted in the early cutting of alfalfa in Montana, Wyoming, Colorado, Utah, Nevada, Idaho, Oregon and Washington.
(Continued on page 24).

ALFALFA WEEVIL IN THE UNITED STATES - 1966

Table 1.

State	Highest counts	Populations peaked	Estimated acreage treated	Number of control applications	Estimated dollar loss
EAST					
Alabama	Larvae 900 per sweep Adults no counts made	First week in April at Auburn	2,000	1-2	?
Arkansas	Larvae 10 per sweep Adults 8 per sweep	Larvae April 15-25 Adults May 20 (Mississippi Co.)	10,000	Mostly one; few large fields in northeast twice	40,000
Delaware	Larvae 96 per sweep	Larvae May 15 to June 7	5,000	1-2	125,000-150,000
Maryland	Larvae 200 per sweep	May 13	67,000	Average 1½	950,000
Illinois	Larvae 121 per sweep Adults 32 per sweep	Larvae April 25 to May 5 Adults May 15-20	5,000-10,000	Mostly once	---
Indiana	Larvae 134 per sweep	April 28 - May 5	30,750	Mostly once	1,987,550
Kentucky	Larvae 154 per sweep Adults 10 per sweep	May 10-20	400,000	One	6,000,000
Massachusetts	2,573 per 100 sweeps	June 14	10,000-15,000	1-2	---
Michigan	1-4 per 1,000 sweeps 5 per 2,000 sweeps	(Collections made on 4 days in November).	---	---	---
Mississippi	180-200 per square foot	Late March and early April	10-15 percent of total acreage	One	50-60 percent of yield

Table 1 continued.

State	Highest counts	Populations peaked	Estimated acreage treated	Number of control applications	Estimated dollar loss
Missouri	Adults 3-5 per sweep		6,500	Once on 4,500 acres, twice on 2,000 acres	222,300 (to first cutting)
	Larvae 20-50 per sweep	Early May			
New Jersey	Larvae 6,100 per 100 sweeps Adults 178 per 100 sweeps	Mid to late May in south; late May to June in north	65,250	60,000 acres once, 5,000 acres twice, 250 acres thrice	750,000 to 937,000
Ohio	Larvae 160 per sweep Adults 6 per sweep	May 10 in south, May 25 in north	489,600	One in north, 2 in south	7,330,000
Pennsylvania	Larvae 500+ per sweep	---	500,000	1-2	9,000,000
Tennessee	35-40 per sweep	Mid-April	70,000	1-1½	1,000,000
Vermont	Larvae 40-50 per sweep Adults 4-5 per sweep	Early June	10,000	One	200,000
West Virginia	Larvae 50 per sweep	Larvae May 31	90,000	One	2,000,000
	Adults 15 per sweep	Adults June 15			
WEST					
California	Larvae 40-60 per sweep (6-10 per stem) Adults 50 per sweep (6 per stem)	Variable; began in late March, increased progressively until August. Populations peaked in most areas in June.	22,000	Mostly one	558,000
Colorado	Larvae 1,000-1,500 per 100 sweeps in Pueblo Co. and western slope Cos.	May and June	100,000	One	500,000 to 1,000,000

Table 1 continued.

State	Highest counts	Populations peaked	Estimated of acreage treated	Number of control applications	Estimated dollar loss
Idaho	Larvae up to 200 per sweep Adults variable	Late May to mid-July	275,000	Mostly one; 2 or more common in some locations	12,000,000
Kansas	Larvae 4 per 10 sweeps Adults 5 per 10 sweeps	Larvae late May Adults June 18-24	None	Not applicable	None
Montana	Probably more than 100 larvae per sweep	Early June	40,000-50,000	One	8,000,000 to 10,000,000
Nebraska	Larvae 197 per 100 sweeps, adults 21 per 100 sweeps in Scotts Bluff Co.	June 10-15	?	One when necessary	None to negligible
Nevada	Larvae 400 per sweep Adults 27 per sweep	Larvae - south May 20 central June 10-15 north July 20-25	54,000	Mostly once; 2-3 in few instances	859,000
North Dakota	Larvae 1,000 per 100 sweeps Adults 30 per 100 sweeps	Larvae - week of June 20	None	---	Negligible
Oregon	Larvae 30 per sweep Adults 10 per sweep	Late May	100,000	Once; occasionally twice on first crop	Variable; 100,000 on 20,000 acres in one Co.
South Dakota	Larvae 3,440 per 100 sweeps Adults 172 per 100 sweeps	Larvae July 1 in Lawrence Co.	20,000	One	688,000

Table 1 continued.

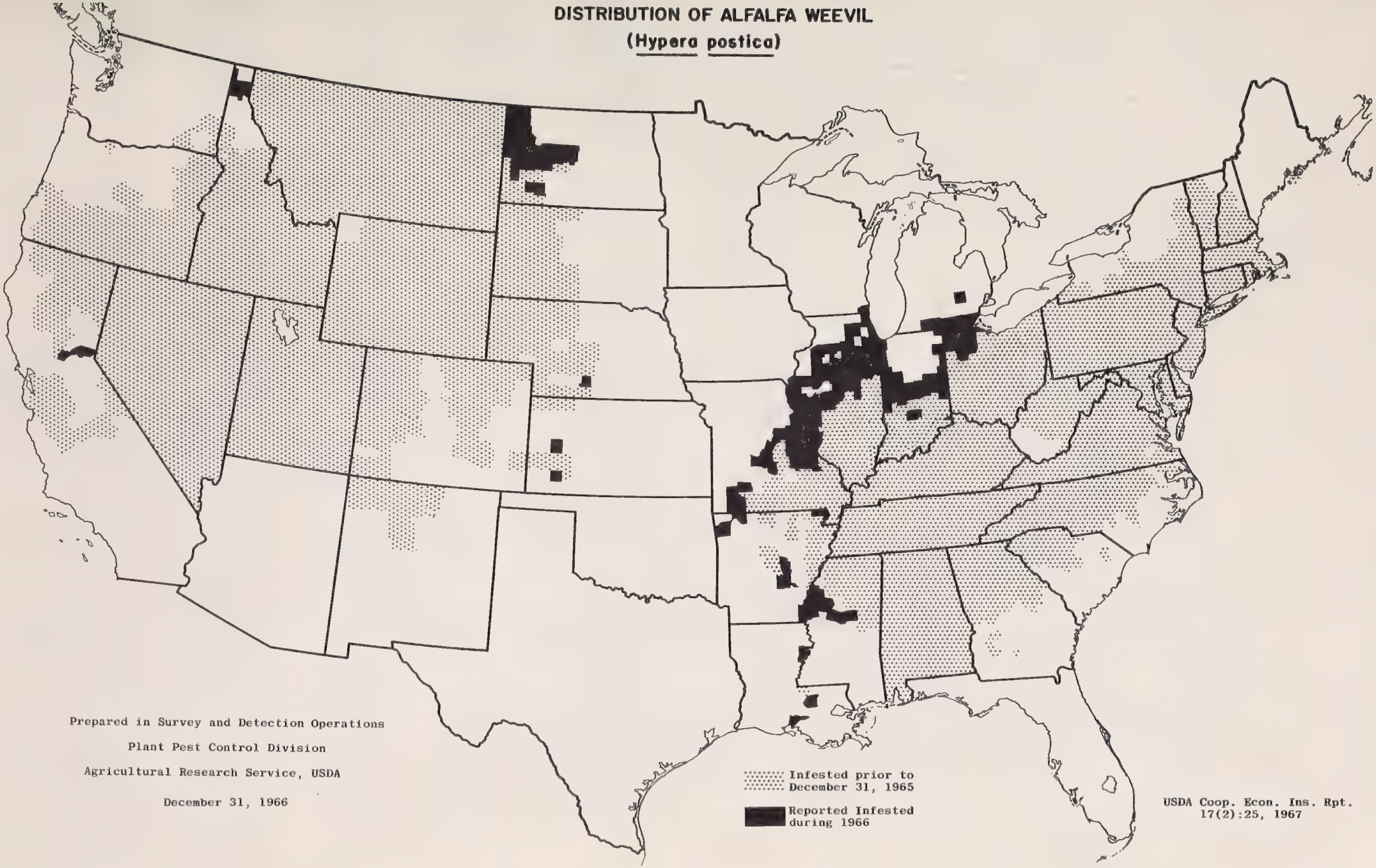
State	Highest counts	Populations peaked	Estimated acreage treated	Number of control applications	Estimated dollar loss
Utah	Larvae 275 per sweep Adults 10 per sweep	Larvae mid to late June along main Wasatch front	325,000	Once on 276,250 acres, twice on 39,000 acres, three times on 9,750 acres	4,500,000 to 5,000,000
Washington	Extremely low	Normally peak late June in eastern section	No commercial fields treated	---	Negligible
Wyoming	Larvae 430-1,100 per 10 sweeps Adults 8-15 per 10 sweeps	Larvae June 27 Adults May 27	100,000	One	580,000

Continued from page 20.

Population intensities and economics of infestations in 30 of the 32 States responding to the questionnaire previously referred to are shown in the accompanying table. It is estimated that a total of 2,807,050 acres were treated and that alfalfa weevil caused an estimated loss of $56,136,850 to growers in these 30 States during 1966.

DISTRIBUTION OF ALFALFA WEEVIL

(*Hypera postica*)


Infested prior to December 31, 1965
Reported Infested during 1966

Prepared in Survey and Detection Operations

Plant Pest Control Division

Agricultural Research Service, USDA

December 31, 1966

USDA Coop. Econ. Ins. Rpt.
17(2):25, 1967

Preparation of Notes for Cooperative Economic Insect Report

Requests have been received relative to the type of information desired for the Cooperative Economic Insect Report and suggestions made for revision in the format.

The report will be reorganized on a principal crop basis. This will simplify present format and make the material more accessible and useful. It is hoped that this approach will also stimulate greater participation by pointing out lack of reporting on individual crop problems. Efforts will be made to evaluate and present the information in ways to make it more useful in insect control.

Forecasting statements will be developed wherever field reports support such action. Reporters are encouraged to include this vitally important information in their notes. Emphasis of the Cooperative Economic Insect Report will be on the important insect problems of a regional nature, notes on routine insect occurrence will be kept to a minimum Routine notes submitted on common insects will be added to the National insect files as warranted, however.

The following guidelines are suggested for preparation of notes. It is realized that all of the information outlined will not be available in each situation, but give the following information when possible.

1. Common (if available) and scientific name of species involved. Stages of insect involved. (If a taxonomic problem exists, it should be noted).
2. Location (definite, recognized area within state, such as region, county or town), date, name of observer or reporter. If note is for period other than current reporting period, give date of observation.
3. Host involved, scope and extent of infestation in number of counties, acres, trees, animals, etc. Also stage of host.
4. Quantitative evaluation of infestation according to recognized survey methods. Where such methods are not available, give numerical data such as number per linear foot, per plant, per sweep or per animal. These data should be based on a representative sampling. An adjectival rating should be accompanied by a numerical rating.
5. Estimation of extent of injury or damage.
6. Comparisons with previous infestations, outlook or predictions for future infestations, unusual influences.
7. Status of natural or applied control.
8. When reporting new State, United States, or North America records, include the above information insofar as applicable, as well as name of taxonomist making determination.

Examples of notes including these data are as follows:

> EUROPEAN RED MITE (*Panonychus ulmi*) - Egg populations have reached point where protective sprays are warranted in 10 percent of apple orchards in Knox County. Counts on June 30 showed 0 to 4.8 live mites per leaf and 0 to 37.6 eggs per leaf. Further increase and spread expected with continued favorable weather. (Jackson, July 2).
>
> EUROPEAN CORN BORER (*Ostrinia nubilalis*) - Oviposition and hatch practically complete in central counties. Fifty egg masses per 100 stalks in northwest area. In southern counties, all corn 35 inches or taller, 70 to 100 percent infested with 2 to 22 larvae per stalk. Larvae from first to third instar. (Smith).

Coope[illegible]

EGG [illegible] INSECT[illegible]

RE[illegible]

[illegible]AL PEST CONTROL [illegible]

[illegible] RESEARCH [illegible]

[illegible] STATES [illegible]

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